

Appln. No. 10/662,509
Reply to the Office Action of June 28, 2005

REMARKS

Claim 16 has been canceled. Claims 15 and 17-26 are active in the case.

Reconsideration is respectfully requested.

The present invention relates to an abrasive sheet that is used in the texturing of the surfaces of magnetic recording media.

Claim Amendment

Claim 15 has been amended by incorporating the limitation of Claim 16 therein.

Accordingly, the amendment that has been made does not introduce new matter into the case and entry of the amendment into the record is respectfully requested.

Invention

The present invention is directed to a method of producing a magnetic recording medium by texturizing a surface of a magnetic recording medium by abrasively contacting the surface with an entangled ultrafine fiber nonwoven fabric made of three-dimensionally entangled fiber bundles composed of ultrafine fibers (A) having a fineness of no more than 0.1 dtex and a high-molecular weight elastomer having a wet elastic modulus of 0.05 to 0.95 kg/mm² in a porous state in spaces among the entangled ultrafine fibers (A), without substantially confining most of the ultrafine fiber bundles and a nap consisting of ultrafine fibers (B) having a fineness of not more than 0.03 dtex on at least one side of the sheet, with the proviso that in the cross-section of the sheet to a depth of about 1/3 in the thickness direction from the napped surface of the sheet, the ultrafine fibers (A) constituting the portions of the

sheet other than the napped portions have a fineness of not more than 0.1 dtex.

Prior Art Rejection

Claims 15-26 stand rejected based on 35 USC 103 as obvious over Owaki, U. S. Patent 5,226,955 in view of Ashida et al, U. S. Patent 5,503,899. This ground of rejection is respectfully traversed.

It is clear that the Owaki patent discloses a polishing composition for the polishing of the surfaces of memory hard discs, and for that purpose, the patent in column 3 discloses a polishing pad that is employed in the polishing machine that is described which is a "suede" type polishing pad. No details of the polishing pad are provided in the patent as to how the pad is formed and the physical characteristics of the surface of the suede pad that allow its favorable use in the polishing machine that is disclosed.

The Examiner cites the Ashida et al patent, because of its disclosure of a suede-like material, which is alleged to be useful as a suede polishing pad in the device described by Owaki. The suede-like material, as described in the abstract, for instance, is comprised of fiber bundles and an elastomeric polymer, wherein the fiber bundles are comprised of fine fibers (A) that have a fineness of 0.02-0.2 denier and microfine fibers (B) having a fineness of not more than 1/5 of the average fineness of fine fibers (A). However, there is no description in the Ashida et al patent of the use of the suede material as a polishing pad material. Rather, the sole utility of the suede material of the reference is as an artificial leather for the manufacture of such articles as clothing, pouches, shoes and the like (the paragraph bridging cols 7 and 8). Moreover, there is no teaching or suggestion of a suede material whose elastomer material is a

high-molecular weight elastomer having a wet elastic modulus of 0.05 to 0.95 kg/mm² and where, in the cross-section of the sheet to a depth of about 1/3 in the thickness direction from the napped surface of the sheet, the ultrafine fibers (A) constituting the portions of the sheet other than the napped portions have a fineness of not more than 0.1 dtex. These characteristics of the present suede-like sheet that is used as a polishing pad material are important. As stated on page 25 of the specification, if the wet elastic modulus of the elastomer is less than 0.05 kg/mm², the strength of the elastomer sheet becomes insufficient, while if the wet elastic modulus of the elastomer is greater than 0.95 kg/mm², the cushioning properties of the abrasive sheet become insufficient for the use of the sheet in texturing the surface of the magnetic recording medium and the effect of preventing the ultrafine fibers from being dislodged from the sheet during texturing unfavorable diminishes. As to the requirement of the present claims that the ultrafine fibers (A) that constitute the portions of the sheet other than the napped portions have a fineness of not more than 0.1 dtex relative to the depth of the sheet of about 1/3 in the thickness direction from the napped surface of the sheet, if the fineness of fibers (A) exceeds 0.1 dtex, the nonwoven fabric surface smoothness becomes insufficient and consequently the smoothness of the abrasive sheet becomes insufficient and the friction against the surface of the disk surface in the texturing thereof becomes excessively strong and processing precision diminishes. Moreover, the comparative evidence in the examples of the present specification demonstrate the importance of the maximum fineness of the ultrafine fibers (B) of the present material as it influences the quality of the texturizing process. Accordingly, the Ashida et al patent is not believed to lead the skilled artisan to the texturizing material of the present process so that the combined references are not believed to suggest the

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invention as claimed. Withdrawal of the rejection is respectfully requested.

It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited

Respectfully submitted,

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